

The Use of Zeros

“Mathematically and ethically this is unacceptable” (Wormeli, 2006, p. 138).

Guskey and Bailey (2001) identify the three most questionable grading practices as using simple averages, lowering grades for behavior(s), and the use of zeros. The first was dealt with earlier in this chapter, and the second was dealt with primarily in Chapter 3. Now it is time to deal with the issue of the big *O*.

Teachers need to devise better ways of dealing with work that is late, missing, or neglected other than simply assigning zeros.

Teachers often use zeros when students fail to submit required assessment evidence and for academic dishonesty because teachers feel that if nothing has been submitted or if students have behaved badly, the score should reflect this and that the zero will lead to more responsible actions in the future. However, a number of serious problems arise with the use of zeros:

- The effect of such extreme scores, especially when coupled with the practice of averaging
- The lack of proportionality between 0 and 50–70 percent as the passing score compared with the much smaller differentials between the other score points in the grading scale
- The inaccurate communication that results from the use of zeros
- The ineffectiveness of zeros as responsibility-creating mechanisms

Marzano (2006) states very strongly that there is “one absolute rule—a student should not be assigned a zero for not taking a test, not turning in an assignment, or turning it in late” (p. 115).

Consider the following real example I observed in the spring of 2001. In a high school that issues report cards after four and a half weeks, grades in one subject were based on five scores. One student, whom I shall call Janice, received scores of 90, 0, 82, 72, and 76. The mean score was 64 percent, and the passing grade in the state is 70 percent, so Janice received an F. (Imagine if we did this in calculating the average temperature. Let’s say the high temperature in Phoenix, Arizona, each day for five days in November was 80°F, but we forgot to record it

one day and recorded a zero. The average would appear to be 64°F!) Janice failed the class both because the extreme score of 0 had a disproportionate impact on the average and because of the 70-point differential between the D/F cut point and 0 compared with a 10-point differential between each of the other cut points (D/C, C/B, and B/A).

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 * must be in place that support students *
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 * complete the missing work. *

In the interest of mathematical accuracy, the lowest possible score should be no more than the differential between the other cut points (Reeves, 2000). If this

approach had been used, the 0 would have become a 60, and Janice's grade would have been 76 percent (a C or D). Another approach is to use a level score scale with an equal numerical difference between each point on the scale. Using this method, Janice's scores might become 4, 0, 3, 2, and 2, resulting in a mean, median, and mode of 2; her letter grade would probably be a C.

The inclusion of the zero in a percentage scale in the grade for Janice led to a serious miscommunication of her achievement. She clearly was not a failing student, as four of her five scores were above or well above the pass/fail level, but because of the one zero and the mean, she received an F. The F in no way communicated the quality of most of her achievement or the fact that one piece of assessment evidence was missing. The teacher expects that the F will cause Janice to make greater effort in the next grading period. Guskey (2000), however, disagrees: "No studies support low grades or marks as punishments. Instead of prompting greater effort, low grades more often cause students to withdraw from learning" (p. 25). It is far more appropriate to have Janice take responsibility for her learning and be held accountable for the missing work. Figure 6.7 is a completion contract that may help to prevent some students from accepting zeros to facilitate work avoidance and failure.

A parent's view of this issue was provided by Susan Hedges (Mathews, 2005b). Commenting on the requirement that no grade below 50 percent be given in the schools attended by her children, she wrote,

I am the parent of two children who have passed through the school system with learning disabilities (dyslexia in one, Attention Deficit Hyperactivity Disorder in the other), and I applaud the change to a new baseline for grades. It is a lot fairer to students who struggle to complete assignments. Both my children have been in the position of not turning in assignments, getting zeros and then being unable to recover no matter how hard they worked for the rest of the semester. On the classic 100-point grading scale, it is very hard to recover when a zero has to be averaged with grades of 60 or better to pass. It is a long way down to zero. (p. GZ06)

Another parent in the same school system, Jill Gohdes, made this observation:

People who don't get the equitable increment idea have obviously never had a kid who struggled in school. I have a son who routinely gets 100s and Os. I can't seem to change this. The E's and D's he gets under the old system do not reflect his intellect or mastery. The C's he might get under the new system reflect a little better his particular combination of intelligence (high) and effort (low). (Mathews, 2004, p. GZ06)

Figure 6.7 Completion Contract

Student Name: _____

Course: _____

Missed Work—The following assessment has not been handed in:

Original Due Date: _____

Reason—Please indicate why the assessment is late.

Next Steps—What will you now do to get this assessment completed?

New Date for Submission: _____

Once this new date is negotiated, the student agrees to submit this assessment on that date or receive a mark of **I** for **Incomplete**. The student and parent acknowledge that Incompletes may lead to the teacher determining that there is insufficient evidence for a grade and that this is the equivalent of a failing grade.

Student Signature: _____

Parent Signature: _____

Teacher Signature: _____

What then should be done about “work not submitted” (which is what late work becomes after a deadline has passed)? The use of a strictly numerical approach to grade determination, the median or mode rather than the mean, and/or a more appropriate point differential (e.g., where if 70 is the pass/fail cut point, 60 is given for missing work instead of 0) would help overcome some of the worst effects of traditional approaches. The other-acceptable numerical approach, noted above, is to use a level score scale with equal numerical difference between each point on the scale. These numerical alternatives are illustrated in Figure 6.8, where the student received marks of 95, 85, 75, and 65 on four assessments but did not submit one of five required assessments.

These changes from traditional practice are acceptable alternatives to the use of zeros, but they are not the best approaches. If, for example, the missing assessment evidence was a major task essential to valid and reliable assessment of Janice’s achievement or if the teacher takes a more holistic approach to grade determination, then the question that needs to be asked is this: Do I have enough evidence to make a valid and reliable judgment of the student’s achievement?

- If the answer is yes, the grade should be determined without the missing piece, which is recorded with an I for “incomplete,” not zero. The fact that the evidence was not submitted should be reported in the work habits/learning skill section and/or in the comment section of a report card.
- If the answer is no, then the grade should be recorded as I for “incomplete” or “insufficient evidence.” This symbol communicates accurately that, while the student’s grade could be anywhere from an A to an E, at the point in time when the grade had to be determined, there was insufficient evidence to make a fair judgment. If the grade I appears on an interim report, then corrective action can be taken during the next grading period. If the I is on the final report card, it has the same effect as an F, but the student should still have the opportunity to submit the missing assessment by an agreed-upon date.

Figure 6.8 Alternatives to Zeros

Student Scores	Equal Difference Scales		
	101-Point Scale	5-Point Scale	50-Point Scale
95	90–100 (A)	4	95
85	80–89 (B)	3	85
75	70–79 (C)	2	75
65	60–69 (D)	1	65
0	< 60 (F)	0	50
Mean	64 (D)	2 (C)	74 (C)
Median	75 (C)	2 (C)	75 (C)

Think About This . . .

"I never give zeros. If an assignment is forever missing, it goes in my book as a fifty. That's an F-, punishment enough. Entering a zero has devastating mathematical consequences on grade averages, often putting students in an irrecoverable position. Why bother to keep working when you know nothing you can do will bring that average up to passing? I want them working, not shut down.

"If we entered grades as forty/A-, thirty/B-, twenty/C-, ten/D-, zeros would be OK. But if ninety/A-, eighty/B-, seventy/C-, sixty/D-, fifty is an F-. Entering a zero in the gradebook is the equivalent of giving a kid K-. For that reason, if a kid miserably fails a test—for example, a score of 35 percent—I put it in as fifty/F-.

"Fifty/F- is low enough. If kids never turn in work, or consistently fail tests, they will still average an F and fail. But, if they have just a few bad days, they can raise their average with quality work and pass."

—Susan Bischoff, secondary teacher, as quoted in Wormeli, 2006, p. 138

If I's are used, mechanisms must be in place that support students and make it possible for them to complete the missing assessment evidence. This means that schools or districts must be prepared to devote human and financial resources to make this possible. Guskey (2000) describes the approach taken at Beachwood Middle School in Ohio, where grades are recorded as A, B, C, or I: "Students who receive an I grade are required to do additional work in order to bring their performance up to an acceptable level" (p. 25). This may involve afterschool sessions, special Saturday school programs, or summer school. Students at Bremerton High School in Washington State had until the end of the next semester to submit missing evidence. This may seem like a long time, but this procedure was adopted so that the time frame is the same for students in both the first and second semesters. A number of schools in Georgia have adopted an approach they call ZAP—Zeros Aren't Permitted. This has a double meaning: Teachers are not permitted to put zeros in their grade books, and students are not permitted just to "take" a zero. During scheduled makeup time, called "ZAP time," students are given support to complete missing evidence of achievement. To make it clear that it is better not to have to attend ZAP, one school scheduled the ZAP time from 4:00 PM to 6:00 PM on Fridays—except on Fridays before a holiday! Another alternative is to use completion contracts, such as the example in Figure 6.7. Appropriate language for Incomplete in a school policy or student handbook can be found in Figure 6.9.

Not using zeros for assessment evidence not submitted is a difficult, and often emotional, issue for teachers. The approach suggested here is educative and supportive but "hard" on students, because it requires students to provide evidence of achievement of all the major learning goals, not just a passing average. It is also an attempt to acknowledge that although we work in a calendar-driven system, learning is, or should be, time-independent.

Additional ideas about the use of zeros can be found in Reeves (2004) and Guskey (2004b).

Figure 6.9 Statement About Incomplete in Student or Teacher Handbook

(Note: Where text appears in italics below, schools/districts would replace it with what they consider to be an acceptable time frame or learning support.)

It is each student's responsibility to provide required evidence of achievement in a timely manner. If students have not met this responsibility (late or missing evidence), they will have additional opportunities to complete all major assessments and performance tasks. For a *period of time*, these opportunities will be provided by the student's teacher and will be voluntary; after a *period of time* students will be required to attend *study hall*, where they will receive support.

Students will have one additional week past the end of the semester to complete any "major assessments" (with no late penalty) that is needed for teachers to be able to determine a grade for a student. Students need to understand that a teacher's professional judgment at the semester's end regarding their body of evidence may override their average score, so students' best chance is to complete all assigned work to the best of their ability. Teachers will record an M in the IC Gradebook for such missing work. If sufficient evidence has not been provided for a *period of time* after the semester ends, the grade shall be reported as I for Incomplete. This is a failing grade and means no credit.

At the beginning of each course/semester, teachers will provide students with an assessment plan that lists all "major assessments" and the minimum requirement for sufficient evidence (e.g., "There will be these seven major assessments (listed with approximate dates). A minimum of five, including the third and fifth, must be completed. If a student's performance is inconsistent, the student may be required to complete more than five assessments.").